BIOCHEMICAL AND BIOPHYSICAL

Research Communications

EDITORS:

Paul D. Boyer

I. C. Gunsalus

B. L. Horecker

Boris Magasanik

Jacques Monod

Frederick C. Neidhardt

W. D. Phillips

Esmond E. Snell

Volume 48 • 1972

ACADEMIC PRESS

New York and London

AUTHOR INDEX
Volume 48, Number 6

Aksamit, Robert, 1348
Albrycht, Diane, 1419
Anderson, J. N., 1460
Anesey, Joan R., 1404
Arnott, Struther, 1392

Barnett, Ronald E., 1362
Beck, William T., 1649
Bell, R. Raines, 1671
Bellantone, Rill A., 1649
Blitzer, B. L., 1482
Brinigar, William S., 1367
Brinkley, Edna C., 1586
Butler, William T., 1540

Camerman, Arthur, 1433
Camerman, Norman, 1433
Canellakis, E. S., 1649
Casillas, Edmund R., 1331
Chambaut, Anne-Marie, 1385
Chen, Kuo-Lan, 1412
Clark, J. H., 1460
Colson, A. M., 1448
Colbeau, A., 1495
Copeland, T., 1549
Cretney, W. C., 1525
Cushley, R. J., 1482

Dabbous, Mustafa Kh., 1586
Danenberg, P. V., 1565
Darnbrough, Chris, 1556
Davis, Norman R., 1656
Dehlinger, Peter, 1371
Deleuze, G. G., 1426
DeSombre, Eugene R., 1601
Deuel, Thomas F., 1419
Dimuzio, Michael T., 1404
Dover, S. D., 1392
Duncan, James L., 1339

Fenselau, C., 1630
Foury, F., 1448
Fox, J. E., 1426
Frabotta, Mary, 1578
Fuhrmann, U., 1516

Garvin, James E., 1404
Gilden, R. V., 1549
Goffeau, A., 1448
Greene, Harry L., 1663
Grisham, Charles M., 1362

Hahn, B. S., 1614, 1630
Hanoune, Jacques, 1385
Haskell, Betty E., 1671
Hauswirth, W., 1614, 1622
Heidelberger, Charles, 1565
Herman, Robert H., 1663
Hershko, Avram, 1378
Hill, H. A. O., 1533
Hilz, H., 1516
Hoskins, Dale D., 1331
Houlihan, C. M., 1675
Huang, T. C., 1525
Hukins, D. W. L., 1392
Hunt, Tim, 1556

Ivanetich, K., 1609

Jackson, Richard J., 1556
Jensen, Elwood V., 1601
Johnson, B. Connor, 1437

Kaden, Thomas A., 1533
Kaminsky, L. S., 1609
Kaneko, Isao, 1504
Kaplan, Marshall B., 1354
Kaukel, E., 1516
Kelley, D. E., 1593
Kennedy, F. Scott, 1533
Kenney, Francis T., 1469
Khattak, M. N., 1622
Killick, K. A., 1476
Kim, Ki-Han, 1636
Kornblatt, M. J., 1489
Koshland, Jr., D. E., 1348
Kunishima, Motoko, 1400

Landry, Y., 1448
Langenbach, R. J. 1565
LaTorre, J., 1593
Leray, Francoise, 1385
Lerner, Alfred, 1419
Larrabee, Allan R., 1371
Lipsky, S. R., 1482
Lust, Jean, 1378

McCay, Paul B., 1412
McChesney, J. D., 1426
McVerry, Patrick, 1636
Mamont, Pierre, 1378
Martin, William R., 1641
Miller, V., 1609
Mohla, Suresh, 1601
Moldave, Kivie, 1572
Morisawa, Seiji, 1444
Mortenson, L. E., 1525
Murray, R. K., 1489

Oberley, Terry D., 1339
Oroszlan, S., 1549

Palmer, G., 1525
Peck, Jr., E. J., 1460
Perry, R. P., 1593
Piette, L. H., 1495
Price, Alan R., 1578

Rappaport, Harry P., 1367
Roy-Burman, Pradip, 1354

Satoh, Hiroshi, 1504
Schachter, H., 1489
Schacter, Lee., 1378
Schroer, R. A., 1572
Scott, J. M., 1675
Seif, Mohamed, 1586
Stephens, D. T., 1331
Stifel, Fred B., 1663
Sugiura, Yukio, 1400
Summers, M., 1549

Tanaka, Hisashi, 1400
Taunton, O. David, 1663
Tomkins, Gordon M., 1378
Tuominen, F. William, 1469
Tweto, John, 1371

Ukita, Tyunosin, 1504

Valkovich, G., 1437
Vallee, Bert L., 1533
Veis, Arthur, 1404
Vignais, P. M., 1495

Walker, Thomas E., 1656
Wang, Su-Sun, 1511
Wang, S. Y., 1614, 1622, 1630
Wei, Kwo-Tsair, 1671
Whittaker, Peter A., 1455
Wright, B. E., 1476
Wright, Maureen, 1455

Yang, Richard R., 1641
Yukioka, Munehiko, 1444

Zafiriou, O. C., 1630
Zumft, W. G., 1525

Contents of Volume 48

Volume 48, Number 1, July 11, 1972

AUTHOR INDEX, VOLUME 48, NUMBER 1 ii

Y. C. CHEN, C. L. WOODLEY, K. K. BOSE, AND N. K. GUPTA. Protein Synthesis in Rabbit Reticulocytes: Characteristics of Met-tRNA$_f^{Met}$ Binding Factor 1

D. E. FENTON, M. MERCER, AND MARY R. TRUTER. The Crystal Structure of a "Model Carrier" Complex Formed between Sodium Bromide and 2,3,11,12-Dicyclohexyl-1,4,7,10,13,16-Hexaoxocyclo-Octadeca-2,11-Diene ("Dicyclohexyl-18-Crown-6") 10

PAUL G. BARTELS AND CAROL MCCULLOUGH. A New Inhibitor of Carotenoid Synthesis in Higher Plants: 4-Chloro-5 (dimethylamino)-2-α,α,α, (Trifluoro-*m*-Tolyl)-3(2H)-Pyridazinone (Sandoz 6706) 16

FRED R. BUTCHER AND ROSE H. GOLDMAN. Effect of Cytochalasin B and Colchicine on the Stimulation of α-Amylase Release from Rat Parotid Tissue Slices 23

KENZO KURIHARA AND NORIYUKI KOYAMA. High Activity of Adenyl Cyclase in Olfactory and Gustatory Organs 30

DAVID KESSEL AND H. BRUCE BOSMANN. L-Asparaginase Effects on Intact Murine Leukemia Cells and on Isolated Cell Plasma Membranes 35

MICHAEL A. SAVAGEAU, ANN MARIE KOTRE, AND NAOTO SAKAMOTO. A Possible Role in the Regulation of Primary Amination for a Complex of Glutamine: α-Ketoglutarate Amidotransferase and Glutamate Dehydrogenase in *Escherichia coli* 41

PETER H. FISHMAN, VIVIAN W. MCFARLAND, PETER T. MORA, AND ROSCOE O. BRADY. Ganglioside Biosynthesis in Mouse Cells: Glycosyltransferase Activities in Normal and Virally-Transformed Lines 48

H. J. GROSS AND D. WILDENAUER. Enzymatic Methylations, II$^+$. In Vitro Inhibition of tRNA and Protein Methylation by Nicotinamide and Isonicotinic Acid Hydrazide: Activation of a *S*-Adenosylmethionine-Splitting Enzyme in Rat Liver 58

I. KULAKOWSKA, A. RABCZENKO, AND D. SHUGAR. Conformation of Nucleosides: II. Dipole Moments and Conformation of Nucleosides 65

J. G. BATCHELOR, J. H. PRESTEGARD, R. J. CUSHLEY, AND S. R. LIPSKY. Conformational Analysis of Lecithin in Vesicles by ^{13}C NMR 70

S. P. ROBINS AND A. J. BAILEY. Age-related Changes in Collagen: The Identification of Reducible Lysine-Carbohydrate Condensation Products 76

MICHAEL C. SCRUTTON AND M. DAWN WHITE. Pyruvate Carboxylase from Rat Liver: Catalytic Properties in the Absence, and at Low Concentrations, of Acetyl-CoA 85

K. L. SU AND H. J. O. SCHMID. On the Oxidation of Long-Chain Polyunsaturated Alcohols By Myelinating Rat Brain 94

ROBERT L. GOLDENBERG, WILLIAM E. BRIDSON, AND PETER O. KOHLER. Estrogen Stimulation of Progesterone Synthesis by Porcine Granulosa Cells in Culture 101

B. R. DASGUPTA AND H. SUGIYAMA. A Common Subunit Structure in *Clostridium botulinum* Type A, B and E Toxins 108

MASAYOSHI IWAKI, KENTARO SHIMURA, MASAYUKI KANDA, ETSUKO KAJI, AND YOSHITAKA SAITO. Some Mutants of *Bacillus brevis* Deficient in Gramicidin S Formation 113

JAMES L. WITTLIFF, DAVID G. GARDNER, WILLIAM L. BATTEMA, AND PETER J. GILBERT. Specific Estrogen-Receptors in the Neoplastic and Lactating Mammary Gland of the Rat 119

SAMSON T. JACOB AND DANIEL G. SCHINDLER. Polyriboadenylate Polymerase Solubilized from Rat Liver Mitochondria 126

C. R. KAHN, D. M. NEVILLE, JR., P. GORDEN, P. FREYCHET, AND J. ROTH. Insulin Receptor Defect in Insulin Resistance: Studies in the Obese-Hyperglycemic Mouse 135

F. VITTUR, M. C. PUGLIARELLO, AND B. DE BERNARD. The Calcium Binding Properties of a Glycoprotein Isolated from Pre-Osseous Cartilage 143

F. FOURY AND A. GOFFEAU. Glucose Superrepressed and Depressed Respiratory Mutants in a "Petite-Negative" Yeast: *Schizosaccharomyces pombe* 972h 153

HERBERT L. ENNIS AND MICHAEL ARTMAN. Ribosome Size Distribution in Extracts of Potassium-Depleted *Escherichia coli* 161

S. R. KHAN AND HIROSHI YAMAZAKI. Trimethoprim-Induced Accumulation (ppGpp) in *Escherichia coli* 169

MELVIN PRAISSMAN AND JESSE M. BERKOWITZ. Size and Charge Heterogeneity of Immunoreactive Gastrin in Extracts of Porcine 175

LINDA E. CAMERON AND H. B. LÉJOHN. Ca^{2+} Is a Specific Regulator of Amino Acid Transport and Protein Synthesis in the Water-Mould *Achyla* 181

KEN-ICHI ARAI, NAOKO ARAI, MASAO KAWAKITA, AND YOSHITO KAZIRO. Interaction of Guanosine 5'-Diphosphate,2'-(or 3'-) Diphosphate (ppGpp) with Elongation Factors from *E. coli* 190

JOAN W. DIXON AND BIBUDHENDRA SARKAR. Absence of a Specific Copper(II) Binding Site in Dog Albumin Is Due to Amino Acid Mutation in Position 3 197

D. S. NEWCOMBE, R. W. ORTEL, AND G. S. LEVEY. Activation of Human Synovial Membrane Adenylate Cyclase by Thyroid Stimulating Hormone (TSH) 201

WESLEY D. WICKS AND JANET MCKIBBIN. Evidence for Translational Regulation of Specific Enzyme Synthesis By N^6,$O^{2'}$-Dibutyryl Cyclic AMP in Hepatoma Cell Cultures 205

SARAH A. TJIOE, ALBERT A. MANIAN, AND JOHN J. O'NEILL. Calcium Efflux and Respiratory Inhibition in Brain Mitochondria. Effects of Chlorpromazine Metabolites 212

MINAKO NAGAO, MICHIYUKI YAMADA, MASANAO MIWA, AND TAKASHI SUGIMURA. Depression of DNA Polymerase Activity in Chromatin by Incubation with NAD 219

GEORGE MACKIE AND DAVID B. WILSON. Polarity and Transcription in the Galactose Operon of *E. coli* 226

MAKOTO SHIMOYAMA, MASAKO SAKAMOTO, SATOSHI NASU, SHOICHI SHIGEHISA, AND IWAO UEDA. Identification of the 3',5'-Cyclic AMP Phosphodiesterase Inhibitor in Potato: Feed-Back Control by Inorganic Phosphate 235

O. O. BLUMENFELD, P. M. GALLOP, AND T. H. LIAO. Modification and Introduction of a Specific Radioactive Label into the Erythrocyte Membrane Sialglycoproteins 242

ERRATA 252

Volume 48, Number 2, July 25, 1972

AUTHOR INDEX, Volume 48, Number 2 ii

TATSUO SUGIYAMA, KENNETH CLINKENBEARD, JOEL MOSS, AND M. DANIEL LANE. Multiple Cytosolic Forms of Hepatic β-Hydroxy-β-Methyglutaryl CoA Synthase: Possible Regulatory Role in Cholesterol Synthesis 255

KURT VON FIGURA AND HANS KRESSE. The Sanfilippo B Corrective Factor: An *N*-Acetyl-α-D-Glucosaminidase 262

B. I. SAHAI SRIVASTAVA. Association of Terminal Deoxynucleotidyl Transferase Activity with Chromatin from Plant Tissue 270

J. RAMACHANDRAN, VIRGINIA LEE, AND CHOH HAO LI. Stimulation of Lipolysis and Cyclic AMP Accumulation in Rabbit Fat Cells by Human Growth Hormone 274

P. GRIPPO AND A. LO SCAVO. DNA Polymerase Activity during Maturation in *Xenopus laevis* Oocytes 280

SHIGEAKI SATO, YOSHIKO NAKAGAWA, AND TAKASHI SUGIMURA. Effect of Growth *in Vivo* and *in Vitro* on Phenotype of Hexokinase Isozymes in Hepatoma Cells 286

WILLIAM F. BENEDICT, BETTY PAUL, AND DANIEL W. NEBERT. Expression of Benz[a]anthracene-Inducible Aryl Hydrocarbon Hydroxylase Activity in Mouse-Hamster and Mouse-Human Somatic-Cell Hybrids 293

JAMES W. HARDIN AND JOE H. CHERRY. Solubilization and Partial Characterization of Soybean Chromatin-Bound RNA Polymerase 299

JUDITH HERZFELD AND H. EUGENE STANLEY. A General Model of Cooperativity and Its Application to DPG Inhibition of Hemoglobin Oxygenation 307

DONALD C. MALINS, PAUL A. ROBISCH, AND USHA VARANASI. Biosynthesis of Triacylglycerols Containing Isovaleric Acid 314

I. KARUBE AND S. SUZUKI. Electrochemical Aggregation of Tropocollagen 320

J. VAN DER BOSCH, CHR. SCHUDT, AND D. PETTE. Quantitative Investigation on Ca^{2+}- and pH-Dependence of Muscle Cell Fusion *in Vitro* 326

G. JOLCHINE AND F. REISS-HUSSON. Proteins of *R. spheroides* Y Reaction Center: Gel Electrophoresis and Electrofocusing Studies 333

G. TOSON, A. R. CONTESSA, AND A. BRUNI. Solubilization of Mitochondrial ATPase by Phospholipids 341

E. P. Heimer, M. Ahmad, and A. L. Nussbaum. Chemical Synthesis of the "Sticky End" of Lambda Phage DNA r-Strand 348

M. L. Greaser, J. Gergely, M. H. Han, and E. S. Benson. Lack of Identity of Tropocalcin with Troponin Components 358

Lee A. Bricker and Gerald S. Levey. Autonomous Cholesterol and Fatty Acid Synthesis in Hepatomas: Deletion of the Adenosine 3',5'-Cyclic Monophosphate Control Mechanism of Normal Liver 362

A. V. Schally, A. Arimura, W. H. Carter, T. W. Redding, R. Geiger, W. König, H. Wissman, G. Jaeger, J. Sandow, N. Yanaihara, C. Yanaihara, T. Hashimoto, and M. Sakagami. Luteinizing Hormone-Releasing Hormone (LH-RH) Activity of Some Synthetic Polypeptides. 1. Fragments Shorter Than Decapeptide 366

David P. Kosow and Irwin A. Rose. Origin of the Delayed Feedback Control of Glucose Utilization in Ascites Tumor Cells 376

Moshe M. Werber and Mordechai Sokolovsky. Chemical Evidence for a Functional Arginine Residue in Carboxypeptidase B 384

Rosalyn S. Yalow and Solomon A. Berson. And Now, "Big, Big" Gastrin 391

Minoru Abe and Louis M. Sherwood. Regulation of Parathyroid Hormone Secretion by Adenylcyclase 396

E. Bruce Waygood and B. D. Sanwal. Regulation of Pyruvate Kinases by Succinyl Coenzyme A .. 402

Antony F. McDonagh. Evidence for Singlet Oxygen Quenching by Biliverdin IX-α Dimethyl Ester and Its Relevance to Bilirubin Photooxidation 408

Om P. Bahl, Robert B. Carlsen, Ronald Bellisario, and N. Swaminathan. Human Chorionic Gonadotropin: Amino Acid Sequence of the α and β Subunits 416

Kenneth W. Kan, Mary C. Ritter, Frank Ungar, and Mary E. Dempsey. The Role of a Carrier Protein in Cholesterol and Steroid Hormone Synthesis by Adrenal Enzymes 423

Joyce F. Remsen and Peter A. Cerutti. Ultraviolet Inactivation and Miscoding of Irradiated R17-RNA *in Vitro* 430

J Patrick O'Neill and Martin Freundlich. Two Forms of Biosynthetic Acetohydroxy Acid Synthetase in *Salmonella typhimurium* 437

J. M. Blatt, W. J. Pledger, and H. E. Umbarger. Isoleucine and Valine Metabolism in *Escherichia coli*. XX. Multiple Forms of Acetohydroxy Acid Synthetase 444

Francis J. Schmidt, Robert M. Bock, and Sidney M. Hecht. Chemical Modifications of Transfer RNA Species. Heavy Atom Derivatization of Aminoacyl tRNA 451

Gerald S. Kuncio, Ronald C. Rustad, and Nancy L. Oleinick. Fluctuations in the Polysome Content of Gamma-Irradiated *Tetrahymena pyriformis* 457

Gary S. David. Solid State Lactoperoxidase: A Highly Stable Enzyme for Simple, Gentle Iodination of Proteins 464

Erratum 472

Volume 48, Number 3, August 7, 1972

Norimasa Kurata, Taijiro Matsushima, and Takashi Sugimura. Multiple Forms of Phosphofructokinase in Rat Tissues and Rat Tumors 473

Thomas E. Nelson and John E. Stouffer. Thyroxine Modulation of Epinephrine-Stimulated Secretion of Rat Parotid α-Amylase 480

D. R. Pfeiffer, J. W. Chu, T. H. Kuo, S. W. Chan, T. Kimura, and T. T. Tchen. Changes in Some Biochemical Parameters Including Cytochrome P-450 after Hypophysectomy and Their Restoration by ACTH Administration in Rats Four Months Posthypophysectomy 486

M. K. Mostafapour and T. T. Tchen. Effects of Actinomycin D on Hormone-Induced Steroidogenesis by Superfused Rat Adrenal Glands 491

Brian G. Spratt. Replication of Extrachromosomal Elements in a DNA Synthesis Initiation Mutant of *Salmonella typhimurium* 496

Joan Wikman-Coffelt. Immunochemical Analyses of Cellular DNA 502

Marvin I. Siegel and M. Daniel Lane. Interaction of Ribulose Diphosphate Carboxylase with 2-Carboxyribitol Diphosphate, An Analogue of the Proposed Carboxylated Intermediate in the CO_2 Fixation Reaction 508

Toshio Asakura. Nonlinear Relation between Oxygen-Binding and Structural Changes of Hemoglobin 517

H. Bruce Bosmann. Cell Surface Glycosyl Transferases and Acceptors in Normal and RNA and DNA Virus-Transformed Fibroblasts 523

M. R. Sairam, Harold Papkoff, and Choh Hao Li. Human Pituitary Interstitial Cell Stimulating Hormone: Primary Structure of the α Subunit 530

Tadashi Miyatake and Kunihiko Suzuki. Globoid Cell Leukodystrophy: Additional Deficiency of Psychosine Galactosidase 538

H. U. Schairer and B. A. Haddock. β-Galactoside Accumulation in a Mg^{2+}-, Ca^{2+}-Activated ATPase-Deficient Mutant of *Escherichia coli* 544

D. F. Cheesman and Ann Priston. Exchange of Actin-Bound Nucleotide in Brief Electrical Stimulation of Muscle 552

Gregory Mooser and David S. Sigman. Identification of a Modifier Site on Acetylcholinesterase with Affinity for *d*-Tubocurarine 559

Harry Walter, Rita Tung, L. J. Jackson, and G. V. F. Seaman. The Nature of the Cell Membrane Charge Measured by Partition in Aqueous Two-Polymer Phase Systems: Differentiation of Classes of Beef Erythrocytes 565

C. H. McMurray, D. R. Evans, and Brian D. Sykes. A Nuclear Magnetic Resonance Study of the Binding of Substrate Analogues to a Modified Aspartate Transcarbamylase 572

R. Julien and M. Delseny. Differential Labelling of DNA in Higher Plants 578

Le Thi Lan and Robert P. Carty. The Synthesis of 2'-Bromoacetamido-2'-Deoxyuridine and Its Reaction with Ribonuclease A 585

M. Fryberg, A. C. Oehlschlager, and A. M. Unrau. Biosynthetic Routes to Ergosterol in Yeast.. 593

Minocher Reporter. An ATP Pool with Rapid Turnover Within the Cell Membrane 598

W. X. Balcavage, K. L. Baxter-Gabbard, M. Ko, M. Rea, F. Padgett, and A. S. Levine. Mitochondrial Alterations Associated with Avian Reticuloendotheliosis Virus (Strain T) Pathogenicity 605

Eugene F. Roth, Jr., Ronald L. Nagel, Robert M. Bookchin, and Arthur I. Grayzel. Nitrogen Mustard: An *"in Vitro"* Inhibitor of Erythrocyte Sickling 612

Sue Wickner, Jerard Hurwitz, Kamalendu Nath, and Lynwood Yarbrough. DNA-Dependent RNA Polymerase-Catalyzed Synthesis of Polyribonucleotide Chains Covalently Linked to DNA.. 619

Jerard Hurwitz, Lynwood Yarbrough, and Sue Wickner. Utilization of Deoxynucleoside Triphosphates by DNA-Dependent RNA Polymerase of *Escherichia coli* 628

M. Remin and D. Shugar. Conformation of the Exocyclic 5'-CH_2OH in Nucleosides and Nucleotides in Aqueous Solution from Specific Assignments of the $H_{5'}$ and $H_{5''}$ Signals in the NMR Spectra 636

Ann Spataro and David Kessel. Studies of Camptothecin-Induced Degradation and Apparent Reaggregation of DNA from L1210 Cells 643

D. Vance, I. Goldberg, O. Mitsuhashi, K. Bloch, Satoshi Ōmura, and Setsuzō Nomura. Inhibition of Fatty Acid Synthetases by the Antibiotic Cerulenin 649

Ann Schluederberg, Carol A. Williams, and Francis L. Black. Inhibition of Measles Virus Replication and RNA Synthesis by Actinomycin D 657

S. Bacchetti, A. van der Plas, and G. Veldhuisen. A UV-Specific Endonucleolytic Activity Present in Human Cell Extracts 662

B. Andersson, P. O. Nyman, and L. Strid. Amino Acid Sequence of Human Erythrocyte Carbonic Anhydrase B 670

W. H. Huestis and M. A. Raftery. The Binding of *n*-Butyl Isocyanide to Human Hemoglobin 678

Raymond Chollet and William L. Ogren. The Warburg Effect in Maize Bundle Sheath Photosynthesis 684

M. I. Aveldano and N. G. Bazan. High Content of Docosahexaenoate and of Total Diacylglycerol in Retina 689

Bruce K. Wallin and William J. Arion. The Requirement for Membrane Integrity in the Inhibition of Hepatic Glucose 6-Phosphatase by Sulfhydryl Reagents and Taurocholate 694

Yoshitaka Kuriki and Kuniaki Kanno. Inhibition of GTP Hydrolysis Depending on G Factor and Ribosomes by a Factor Prepared from the Ribosome Wash of *Escherichia coli* Q13 700

R. A. Gelman, W. B. Rippon, and J. Blackwell. Interactions between Chondroitin Sulfate C and Poly-L-Lysine: Preliminary Report 708

Louis B. Hersh and Edward Bellion. Malate Cleavage Reaction in Pseudomonas Species (Shaw Strain MA) 712

AVID R. EYRE AND MELVIN J. GLIMCHER. Evidence for a Previously Undetected Sequence at the Carboxyterminus of the $\alpha 1$ Chain of Chicken Bone Collagen 720
RRATUM 727

Volume 48, Number 4, August 21, 1972

UTHOR INDEX, VOLUME 48, NUMBER 4 ii
AJAMA ZAHEER BAQUER AND PATRICIA MCLEAN. The Effect of Oestradiol on the Profile of Constant and Specific Proportion Groups of Enzymes in Rat Uterus 729
. M. RYAN AND V. J. CRISTOFALO. Histone Acetylation during Aging of Human Cells in Culture .. 735
MARK C. WILLINGHAM, GEORGE S. JOHNSON, AND IRA PASTAN. Control of DNA Synthesis and Mitosis in 3T3 Cells by Cyclic AMP 743
M. GRENSON AND C. HOU. Ammonia Inhibition of the General Amino Acid Permease and Its Suppression in NADPH-Specific Glutamate Dehydrogenaseless Mutants of *Saccharomyces cerevisiae* .. 749
ALBERT A. KESHGEGIAN AND J. J. FURTH. Comparison of Transcription of Chromatin by Calf Thymus and *E. coli* RNA Polymerases 757
MARIO RIPPA, MARCO SIGNORINI, AND FRANCO DALLOCCHIO. Differentiation between the Structural and Redox Roles of TPNH in 6-Phosphogluconate Dehydrogenase 764
TAKASHI TSURUO, HIROSHI SATOH, AND TYUNOSIN UKITA. DNA Polymerases of Ascites Hepatoma Cells. I. Purification and Properties of a DNA Polymerase from Soluble Fraction 769
TAKASHI TSURUO, YOKO TOMITA, HIROSHI SATOH, AND TYUNOSIN UKITA. DNA Polymerases of Ascites Hepatoma Cells. II. Purification and Properties of DNA Polymerases from Nuclear Membrane-Chromatin Fraction 776
KIKUO ONOZAKI, MOTOWO TOMITA, YOSHIO SAKURAI, AND TYUNOSIN UKITA. The Mechanism of the Cytotoxicity of *Ricinus communis* Phytoagglutinin Toward Rat Ascites Tumor Cells 783
T. C. PEDERSON AND S. D. AUST. NADPH-Dependent Lipid Peroxidation Catalyzed by Purified NADPH-Cytochrome c Reductase from Rat Liver Microsomes 789
L. HAREL, J. HAREL, AND G. FREZOULS. DNA Copies of Viral RNA in Rat Cells Transformed by Rous Sarcoma Virus (RSV) 796
. H. ROBERTS AND A. P. LEVIN. Normal Synthesis of Aminotransferase Protein in a Pyridoxineless Strain of *S. typhimurium* 802
ANATOL G. MORELL AND I. HERBERT SCHEINBERG. Solubilization of Hepatic Binding Sites for Asialo-Glycoproteins 808
. H. TISDALE AND A. GIB DEBUSK. Permeability Problems Encountered When Treating Conidia of *Neurospora crassa* with RNA Synthesis Inhibitors 816
W. E. TIMBERLAKE, GRETCHEN HAGEN, AND D. H. GRIFFIN. Rat Liver DNA-Dependent RNA Polymerase I Is Inhibited by Cycloheximide 823
FRANZ J. FEHRENBACH. NAD-Glycohydrolase (Streptolysin -O), EC 3.2.2.5, and Its Role in Cytolysis. 828
NISSON SCHECHTER, KAZUTAKA MOMOSE, AND HARRY RUDNEY. The Effect of Bacitracin and Ca^{++} on the Formation of Polyprenylpyrophosphates and Their Incorporation into Ubiquinone Precursors in Mammalian and Bacterial Systems 833
THOMAS E. ROCHE AND LESTER J. REED. Function of the Nonidentical Subunits of Mammalian Pyruvate Dehydrogenase 840
MARK L. ENTMAN, PAUL C. GILLETTE, EARL T. WALLICK, BURTON C. PRESSMAN, AND ARNOLD SCHWARTZ. A Study of Calcium Binding and Uptake by Isolated Cardiac Sarcoplasmic Reticulum: The Use of a New Ionophore (X537A) 847
ROXANNE DESLAURIERS, RODERICH WALTER, AND IAN C. P. SMITH. A Carbon-13 Nuclear Magnetic Resonance Study of Oxytocin and Its Oligopeptides 854
SAM SOROF, VALERIE M. KISH, AND BRAHMA SANI. Purification and Properties of the Principal Liver Protein Conjugate of a Hepatic Carcinogen 860
PETER CAMPBELL AND E. T. KAISER. The Intramolecular Nucleophilic Reaction of a Phenolic Hydroxyl Group at the Active Site of Papain 866
R. T. PEARSON, W. DERBYSHIRE, AND J. M. V. BLANSHARD. An NMR Investigation of Rigor in Porcine Muscle 873
W. PATTON, V. BACON, A. M. DUFFIELD, B. HALPERN, Y. HOYANO, W. PEREIRA, AND J. LEDERBERG. Chlorination Studies. I. The Reaction of Aqueous Hypochlorous Acid with Cytosine 880

YUTAKA ORII AND TETSUTARO IIZUKA. Photo- and Thermochromism of Cytochrome Oxidase: Significance of a New Photodissociable Species 885

ROBERT E. BURGESON, ANNE W. WYKE, AND JOHN H. FESSLER. Collagen Synthesis by Cells II: Secretion of a Disulfide Linked Material 892

DANIEL P. GILBOE AND FRANK Q. NUTTALL. The Role of ATP and Glucose 6-Phosphate in the Regulation of Glycogen Synthetase D Phosphate 898

C. F. ALLEN, P. GOOD, T. TROSPER, AND R. B. PARK. Chlorophyll, Glycerolipid and Protein Ratios in Spinach Chloroplast Grana and Stroma Lamellae 907

J. C. DREYFUS AND Y. ALEXANDRE. Electrophoretic Characterization of Acidic and Neutral Amylo 1-4-Glycosidase (Acid Maltase) in Human Tissues and Evidence for Two Electrophoretic Variants in Acid Maltase Deficiency 914

U. REISS, A. L. TAPPEL, AND K. S. CHIO. DNA-Malonaldehyde Reaction: Formation of Fluorescent Products 921

BO ÖBERG AND LENNART PHILIPSON. Binding of Histidine to Tobacco Mosaic Virus RNA 927

NORMAN T. FELBERG AND THOMAS C. HOLLOCHER. Differences in the Amino Acid Compositions of the Subunits of Succinate Dehydrogenase 933

TORU HIGASHINAKAGAWA, TOSHIO ONISHI, AND MASAMI MURAMATSU. A Factor Stimulating the Transcription by Nucleolar RNA Polymerase in the Nucleolus of Rat Liver 937

DAVID GAUDIN, ROBERT S. GREGG, AND K. LEMONE YIELDING. Inhibition of DNA Repair by Cocarcinogens 945

CLAUDE PAOLETTI, HELENE COUDER, AND MICHEL GUERINEAU. A Yeast Mitochondrial Deoxyribonuclease Stimulated by Ethidium Bromide 950

RONALD L. NAGEL AND QUENTEN H. GIBSON. The Hemoglobin-Haptoglobin Reaction as a Probe of Hemoglobin Conformation 959

SHERWIN S. LEHRER. The Crosslinking of Actin and of Tropomyosin by Glutaraldehyde 967

INGRID HOFFSTRÖM, AKE ELLIN, STEN ORRENIUS, DAN BÄCKSTRÖM, AND ANDERS EHRENBERG. Evidence for the Presence of an Iron Sulphur Protein in Rat Kidney Cortex Microsomes 977

ADOLPH ABRAMS AND ELIZABETH ANN NOLAN. Cellular Incorporation of ^{32}P-Orthophosphate into the Membrane ATPase of *Streptococcus faecalis* 982

KARL A. PIEZ, GARY BALIAN, EVA MARIE CLICK, AND PAUL BORNSTEIN. Homology between the $\alpha 1$ and $\alpha 2$ Chains of Collagen 990

J. HERRERA, A. PANEQUE, J. M. MALDONADO, J. L. BAREA, AND M. LOSADA. Regulation by Ammonia of Nitrate Reductase Synthesis and Activity in *Chlamydomonas reinhardi* 996

CHRISTOPHER R. LOWE, KLAUS MOSBACH, AND PETER D. G. DEAN. Some Applications of Insolubilised Cofactors to the Purification of Pyridine Nucleotide-Dependent Dehydrogenases 1004

DETLEF GABEL AND VOLKER KASCHE. Cooperative Transitions between Active α- and β-Trypsin Conformations 1011

K. GRAY AND E. F. SLADE. The Temperature Dependence of the Optical Absorption Spectra of Some Methaemoglobin Derivatives 1019

ERRATUM 1025

Volume 48, Number 5, September 5, 1972

AUTHOR INDEX, VOLUME 48, NUMBER 5 ii

WILLIAM L. MCLELLAN AND HENRY J. VOGEL. Translational and Transcriptional Components of Repression by Arginine in *Escherichia coli* 1027

RUTH H. VOGEL, GEORGE J. KNIGHT, AND HENRY J. VOGEL. Altered Translational or Transcriptional Components of Repression in *argR* Mutants of *Escherichia coli:* Evidence from a Translation Retarder 1034

P. B. HYLEMON AND P. V. PHIBBS, JR. Independent Regulation of Hexose Catabolizing Enzymes and Glucose Transport Activity in *Pseudomonas aeruginosa* 1041

R. PREMA KUMAR, S. D. RAVINDRANATH, C. S. VAIDYANATHAN, AND N. APPAJI RAO. Mechanism of Hydroxylation of Aromatic Compounds: Evidence for the Involvement of Superoxide Anion in a Model System 1049

R. Egmond, J. F. G. Vliegenthart, and J. Boldingh. Stereospecificity of the Hydrogen Abstraction at Carbon Atom n-8 in the Oxygenation of Linoleic Acid by Lipoxygenases from Corn Germs and Soya Beans 1055

G. Clark, R. G. Wolcott, and M. A. Raftery. Partial Characterization of an α-Bungarotoxin-Binding Component of Electroplax Membranes 1061

HN C. Brown, Harold E. Swaisgood, and H. Robert Horton. Air-Reoxidation of Reduced, Denatured Chymotrypsinogen A Covalently Attached to a Solid Matrix 1068

. J. Peak, J. G. Peak, and Irwin P. Ting. Light-Induced Reduction in Specific Activity of Malate Enzyme in *Euglena gracilis* Z 1074

AX Wicha and Frank E. Stockdale. DNA-Dependent DNA Polymerases in Differentiating Embryonic Muscle Cells 1079

TANLEY Bram. II–The Polymorphism of Natural DNA 1088

OGER Guillemin, Max Amoss, Richard Blackwell, Jean Rivier, Nicholas Ling, and Wylie Vale. On the Biological Activities of the Synthetic Tetrapeptide Pyroglutamyl-Tyrosyl-Arginyl-Tryptophanyl-Amide 1093

I. W. Monahan and J. Rivier. Luteinizing Hormone Releasing Factor. The Total Solid-Phase Synthesis on a Benzhydrylamine Polymer 1100

EONARD I. Malkin. The Preparation of Rat Liver High Molecular Weight Mitochondrial RNA Free of Cytoplasmic Ribosomal RNA 1106

AMES Travis. Human Pancreatic Enzymes: Amino Acid Sequence of the A-Chain of Human Chymotrypsin II 1111

Wallace McKeehan. The Ribosomal Subunit Requirements for GTP Hydrolysis by Reticulocyte Polypeptide Elongation Factors EF-1 and EF-2 1117

ASAF A. Qureshi, Enrique D. Beytia, and John W. Porter. Squalene Synthetase. I. Dissociation and Reassociation of Enzyme Complex 1123

A. M. Reynard and L. F. Nellis. Uptake of Tetracycline by *Escherichia coli:* Lack of Binding of Tetracycline to the Uptake System 1129

Yochanan Friedman and Charalampos Arsenis. The Resolution of Aryl Sulfatase and Heparin Sulfamidase Activities from Various Rat Tissues 1133

Robert N. Feinstein and Erma C. Cameron. Aldehyde Dehydrogenase Activity in a Rat Hepatoma 1140

Elvin Harper and Jerome Gross. Collagenase, Procollagenase and Activator Relationships in Tadpole Tissue Cultures 1147

F. Robert Tabita and Bruce A. McFadden. Regulation of Ribulose-1,5-Diphosphate Carboxylase by 6-Phospho-D-Gluconate 1153

Stuart J. Edelstein. An Allosteric Mechanism for the Acetylcholine Receptor 1160

Michel Simon and David Apirion. A Differential Effect of Adenosine 3',5'-Cyclic Monophosphate on the Synthesis of Functional Enzymes from Two Different Cistrons of the *lac* Operon 1166

E. D. Harris and B. L. O'Dell. Comparison of Soluble and Particulate Amine Oxidases from Bovine Aorta 1173

Charles W. Haidle, K. Kay Weiss, and Myles L. Mace, Jr. Induction of Bacteriophage by Bleomycin 1179

David A. Brase and Thomas C. Westfall. Stimulation of Rat Liver Phenylalanine Hydroxylase Activity by Derivatives of Vitamin E 1185

D. A. Rottenberg, J. V. Passonneau, and W. D. Lust. Glycogen-Mediated Activation of Pig-Brain Glycogen Synthetase I and D 1192

D. Suriyachan and A. Thithapandha. Distribution and Heterogeneity of Histamine *N*-Methyltransferase 1199

Bernard Friedenson, Ettore Appella, Oliver A. Roholt, and David Pressman. Localization within the Heavy Chain Sequence of Tyrosyl Peptides from the Combining Sites in a Rabbit Anti-3-Azopyridine Antibody Preparation 1208

Satoshi Nakamura. Stimulation of Oxygen Uptake of Ferredoxin-NADP Reductase-Ferredoxin Complex by Cytochrome *c* 1215

George F. Vande Woude, John B. Swaney, and Howard L. Bachrach. Chemical and Physical Properties of Foot-and-Mouth Disease Virus: A Comparison with Maus Elberfeld Virus 1222

Sheldon W. May and Bernard J. Abbott. Enzymatic Epoxidation. I. Alkene Epoxidation by the ω-Hydroxylation System of *Pseudomonas oleovorans* 1230

Kunthala Jayaraman and Raghavan Kannan. The Role of Polypeptide Antibiotics on the Bacterial Differentiation 1235

MARIA LUISA CELMA, DAVID VAZQUEZ, AND JUAN MODOLELL. Failure of Fusidic Acid and Siomycin to Block Ribosomes in the Pretranslocated State 1240

EDWARD D. HARRIS, JR., CHARLES S. FAULKNER, II, AND SUMNER WOOD, JR. Collagenase in Carcinoma Cells 1247

S. I. T. KENNEDY. Isolation and Identification of the Virus-Specified RNA Species Found on Membrane-Bound Polyribosomes of Chick Embryo Cells Infected with Semliki Forest Virus 1254

DOROTHY E. SCHUMM AND THOMAS E. WEBB. Transport of Informosomes from Isolated Nuclei of Regenerating Rat Liver 1259

JOHN S. LEIGH, JR. AND DAVID F. WILSON. Heme-Heme Interactions in Cytochrome *c* Oxidase; Effects of Photodissociation of the CO Compound 1266

J. C. HSIA, W. L. CHEN, L. T. WONG, R. A. LONG, AND W. KALOW. Synthesis of Spin Labelled 2,-4-Dinitrophenols and Their Activities in the Uncoupling of Oxidative Phosphorylation in Rat Liver Mitochondria 1273

J. V. MILLER, JR., E. B. THOMPSON, E. L. KUFF, AND S. H. WILSON. Polydeoxythymidylate Inhibition of Rabbit Reticulocyte RNA Dependent Protein Synthesis in a Krebs II Ascites Cell System 1280

E. WINTERSBERGER. Isolation of a Distinct Rifampicin-Resistant RNA Polymerase from Mitochondria of Yeast, Neurospora and Liver 1287

R. PADMANABHAN, RAJI PADMANABHAN, AND RAY WU. Nucleotide Sequence Analysis of DNA. IX. Use of Oligonucleotides of Defined Sequence as Primers in DNA Sequence Analysis 1295

R. M. THOMPSON AND D. M. DESIDERIO. Permethylation and Mass Spectrometry of Intact Ether Glucuronides at the Low Nanomolar Level 1303

R. B. FAIRWEATHER, M. L. TANZER, AND P. M. GALLOP. Aldol-Histidine, a New Trifunctional Collagen Crosslink 1311

JOHN W. BUNTING AND JOE MURPHY. The Mechanism of Substrate Inhibition of the Esterase Activity of Carboxypeptidase A 1316

ESTELA SÁNCHEZ DE JIMÉNEZ AND BLAS LOTINA. Degradation of Ribosomal RNA during Red Cell Differentiation 1323

ERRATA 1329

Volume 48, Number 6, September 26, 1972

AUTHOR INDEX, VOLUME 48, NUMBER 6 ii

DALE D. HOSKINS, EDMUND R. CASILLAS, AND D. T. STEPHENS. Cyclic AMP-Dependent Protein Kinases of Bovine Epididymal Spermatozoa 1331

TERRY D. OBERLEY AND JAMES L. DUNCAN. Streptolysin O Induced Alterations in Rabbit Erythrocyte Membrane Polypeptides 1339

ROBERT AKSAMIT AND D. E. KOSHLAND, JR. A Ribose Binding Protein of *Salmonella typhimurium*.. 1348

PRADIP ROY-BURMAN AND MARSHALL B. KAPLAN. Nucleotide Composition of the RNA from RD-114 Virions 1354

RONALD E. BARNETT AND CHARLES M. GRISHAM. Spin Exchange of Spin Labeled Probes in Natural Membrane 1362

WILLIAM S. BRINIGAR AND HARRY P. RAPPAPORT. Tritium Labeling of Proteins with ^{3}H-Chloroform.. 1367

JOHN TWETO, PETER DEHLINGER, AND ALLAN R. LARRABEE. Relative Turnover Rates of Subunits of Rat Liver Fatty Acid Synthetase 1371

PIERRE MAMONT, AVRAM HERSHKO, RAPHAEL KRAM, LEE SCHACTER, JEAN LUST, AND GORDON M. TOMKINS. The Pleiotypic Response in Mammalian Cells: Search for an Intracellular Mediator 1378

FRANÇOISE LERAY, ANNE-MARIE CHAMBAUT, AND JACQUES HANOUNE. Role of GTP in Epinephrine and Glucagon Activation of Adenyl Cyclase of Liver Plasma Membrane 1385

STRUTHER ARNOTT, D. W. L. HUKINS, AND S. D. DOVER. Optimized Parameters for RNA Double-Helices 1392

YUKIO SUGIURA, MOTOKO KUNISHIMA, AND HISASHI TANAKA. Spectral Similarity of Some Dithiol-Iron(III)-Sulfide Complexes to Ferredoxin 1400

ARTHUR VEIS, JOAN R. ANESEY, JAMES E. GARVIN, AND MICHAEL T. DIMUZIO. High Molecular Weight Collagen: A Long-Lived Intermediate in the Biogenesis of Collagen Fibrils 1404

UO-LAN CHEN AND PAUL B. MCCAY. Lysosome Disruption by a Free Radical-Like Component Generated during Microsomal NADPH Oxidase Activity 1412

HOMAS F. DEUEL, ALFRED LERNER, AND DIANE ALBRYCHT. Regulatory Properties of Rat Liver Glutamine Synthetase 1419

. G. DELEUZE, J. D. MCCHESNEY, AND J. E. FOX. Identification of a Stable Cytokinin Metabolite.. 1426

ORMAN CAMERMAN AND ARTHUR CAMERMAN. Thyroid Hormone Structure: Molecular Conformation of Triiodothyropropionic Acid 1433

. CONNOR JOHNSON AND G. VALKOVICH. Glycolipid Derivatives of Vitamin K_1 1437

UNEHIKO YUKIOKA AND SEIJI MORISAWA. Inhibition of the Chloramphenicol Binding to Ribosomes by the Sparsomycin-Induced Binding of Aminoacyl-tRNA to Ribosomes 1444

. GOFFEAU, A. M. COLSON, Y. LANDRY, AND F. FOURY. Modifications of Mitochondrial ATPase in Chromosomal Respiratory-Deficient Mutants of a "Petite-Negative" Yeast: *Schizosaccharomyces pombe* 972h 1448

ETER A. WHITTAKER AND MAUREEN WRIGHT. Prevention by Cycloheximide of Petite Mutation in Yeast 1455

. N. ANDERSON, J. H. CLARK, AND E. J. PECK, JR. The Relationship between Nuclear Receptor·Estrogen Binding and Uterotrophic Responses 1460

. WILLIAM TUOMINEN AND FRANCIS T. KENNEY. Inhibition of RNA-Directed DNA Polymerase from Rauscher Leukemia Virus by the 5'-Triphosphate of Cytosine Arabinoside 1469

. A. KILLICK AND B. E. WRIGHT. Trehalose Synthesis during Differentiation in *Dictyostelium discoideum*. IV. Secretion of Trehalase and the *in Vitro* Expression of Trehalose-6-Phosphate Synthetase Activity 1476

R. J. CUSHLEY, B. L. BLITZER, AND S. R. LIPSKY. Anomeric Configuration of Nucleosides by Application of the Internal Nuclear Overhauser Effect 1482

M. J. KORNBLATT, H. SCHACHTER, AND R. K. MURRAY. Partial Characterization of a Novel Glycerogalactolipid from Rat Testis 1489

A. COLBEAU, P. M. VIGNAIS, AND L. H. PIETTE. Biosynthetic Synthesis and Isolation of Phospholipid Spin-Labels from Rat Liver Microsomes and Mitochondria 1495

ISAO KANEKO, HIROSHI SATOH, AND THE LATE TYUNOSIN UKITA. Binding of Radioactively Labeled Concanavalin A and *Ricinus communis* Agglutinin to Rat Liver- and Rat Ascites Hepatoma-Nuclei 1504

SU-SUN WANG. Synthesis of Desglycinamide Lysine Vasopressin and Its Behavorial Activity in Rats.. 1511

E. KAUKEL, U. FUHRMANN, AND H. HILZ. Divergent Action of cAMP and Dibutyryl cAMP on Macromolecular Synthesis in Hela S3 Cultures 1516

W. G. ZUMFT, W. C. CRETNEY, T. C. HUANG, L. E. MORTENSON, AND G. PALMER. On the Structure and Function of Nitrogenase from *Clostridium pasteurianum* W5 1525

F. SCOTT KENNEDY, H. A. O. HILL, THOMAS A. KADEN, AND BERT L. VALLEE. Electron Paramagnetic Resonance Spectra of Some Active Cobalt(II) Substituted Metalloenzymes and Other Cobalt(II) Complexes 1533

WILLIAM T. BUTLER. The Structure of α1-CB3, a Cyanogen Bromide Fragment from the Central Portion of the α1 Chain of Rat Collagen. The Tryptic Peptides from Skin and Dentin Collagens 1540

S. OROSZLAN, T. COPELAND, M. SUMMERS, AND R. V. GILDEN. Amino Terminal Sequences of Mammalian Type C RNA Tumor Virus Group-Specific Antigens 1549

CHRIS DARNBROUGH, TIM HUNT, AND RICHARD J. JACKSON. A Complex between Met-$tRNA_F$ and Native 40S Subunits in Reticulocyte Lysates and Its Disappearance during Incubation with Double-Stranded RNA 1556

R. J. LANGENBACH, P. V. DANENBERG, AND CHARLES HEIDELBERGER. Thymidylate Synthetase: Mechanism of Inhibition by 5-Fluoro-2'-Deoxyuridylate 1565

R. A. SCHROER AND KIVIE MOLDAVE. Factor-Independent Interaction of Met-$tRNA_i$ and ApUpG with 40S Subunits of Rat Liver Ribosomes 1572

ALAN R. PRICE AND MARY FRABOTTA. Resistance of Bacteriophage PBS2 Infection to Rifampicin, an Inhibitor of *Bacillus subtilis* RNA Synthesis 1578

MUSTAFA KH. DABBOUS, MOHAMED SEIF, AND EDNA C. BRINKLEY. The Action of Tetranitromethane on Acid-Soluble Tropocollagen 1586

R. P. PERRY, D. E. KELLEY, AND J. LATORRE. Lack of Polyadenylic Acid Sequences in the Messenger RNA of *E. coli* 1593

EUGENE R. DESOMBRE, SURESH MOHLA, AND ELWOOD V. JENSEN. Estrogen-Independent Activation of the Receptor Protein of Calf Uterine Cytosol 1601

L. S. Kaminsky, V. Miller, and K. Ivanetich. A Reversal of Heme Crevice Strengths of Ferri- and Ferrocytochrome *c* on Carboxymethylation 1609

W. Hauswirth, B. S. Hahn, and S. Y. Wang. Spontaneous and Light Induced Hydration of Pyrimidines 1614

M. N. Khattak, W. Hauswirth, and S. Y. Wang. Photohydration of Pyrimidines in "Acid Puddles" 1622

S. Y. Wang, B. S. Hahn, C. Fenselau, and O. C. Zafiriou. Enrichment of ^{18}O in the Nucleic Acid Bases 1630

Patrick McVerry and Ki-Han Kim. Dephosphorylation and Aggregation of Rat Liver Glycogen Synthetase 1636

William R. Martin and Richard R. Yang. Inosine and Guanine Phosphoribosyltransferase in *Escherichia coli* 1641

William T. Beck, Rill A. Bellantone, and E. S. Canellakis. The *in Vivo* Stimulation of Rat Liver Ornithine Decarboxylase Activity by Dibutyryl Cyclic Adenosine 3',5'-Monophosphate, Theophylline and Dexamethasone 1649

Norman R. Davis and Thomas E. Walker. The Role of Carboxyl Groups in Collagen Calcification 1656

O. David Taunton, Fred B. Stifel, Harry L. Greene, and Robert H. Herman. Rapid Reciprocal Changes of Rat Hepatic Glycolytic Enzymes and Fructose-1,6-Diphosphatase Following Glucagon and Insulin Injection *in Vivo* 1663

Kwo-Tsair Wei, R. Raines Bell, and Betty E. Haskell. Regarding 4-Pyridoxic Acid-5'-Phosphate in Animal Tissue 1671

C. M. Houlihan and J. M. Scott. The Identification of Pteroylpentaglutamate as the Major Folate Derivative in Rat Liver and the Demonstration of Its Biosynthesis from Exogenous [^3H]Pteroyl-glutamate 1675

Erratum 1682

Author Index, Volume 48 1683

Information for Contributors

BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS is devoted to the rapid dissemination of timely and significant observations in the diverse fields of modern experimental biology. Manuscripts submitted should be so written as to clearly emphasize the novel aspects of the information reported, with the understanding that the same material has not been, nor will be, submitted for publication elsewhere.

Manuscripts in duplicate may be sent to any one of the editors whose names and addresses are listed on the inside front cover.

In order to assure rapid and accurate publication, it is essential that manuscripts be prepared according to the instructions given below. Manuscripts which do not conform to these specifications may have to be returned for retyping.

Preparation of Manuscripts

Article length should not exceed 5 typewritten pages, double-spaced on 8½ x 11" high quality paper (the complete manuscript, including space occupied by figures and tables, should be not more than 8 pages long).

Summary: The article must be preceded by a brief summary, typed single-spaced, not to exceed 10 lines in length (approximately 100-150 words). This paragraph should adequately summarize the pertinent findings of the paper.

Typing. Since articles are reproduced directly from manuscripts, the latter must be typewritten on good quality white bond paper. A black silk or carbon typewriter ribbon should be used, and special care should be taken to insure a sharp, clean impression of letters throughout. Use of an electric typewriter is strongly recommended. Erasures should be avoided. Care must also be taken to avoid errors in spelling, word division, and punctuation.

Manuscripts should be double-spaced, on only one side of the sheet; **references, footnotes, and figure legends should be single-spaced.** Typing area of the page must be as close as possible to 6½" wide by 9½" long.

Use of Symbols and Abbreviations. Abbreviations except for those in the Commission on Biochemical Nomenclature Document #1 (*Arch. Biochem. Biophys.* **115,** 1-12 (1966)) must be defined, and ambiguous abbreviations such as TCA, or P to signify anything but phosphate, should be avoided. Authors are urged to use chemical formulas, such as CCl_3COOH, wherever possible. If improper abbreviations are used it may be necessary to return manuscripts for retyping, which will delay their publication.

Footnotes should be typed single-spaced, at the foot of the page on which they are mentioned in the text. References and figure legends should be typed single-spaced on separate pages.

Illustrations and Tables. Photographs are acceptable. Mathematical or chemical symbols that cannot be typed should be inked in carefully in black. Structural formulas should be drawn in black ink. Illustrations and tables should be submitted on separate sheets. **Do not attempt to insert the figures, figure legends, or tables into the text.** This will be done by the Publishers.

All drawings should be done in black ink on white paper or tracing cloth; they must be planned for reduction to a width of not more than 5". Final size of the printed page is 5½ x 8⅜"; figures must be planned to fit these proportions.

Graph paper, if used, should be ruled in blue; grid lines that are to show in the final reproduction should be inked in black. High quality glossy prints are acceptable.

Page Numbers and Headings. Page numbers should be typed at the top of the page.

The title of the paper should be typed in capital letters near the top of the first page, with the name(s) and affiliation(s) of the author(s) typed just below. Headings within the article should be arranged according to their relative importance.

References to the literature may be cited by number and listed in numerical order in a single-spaced list placed at the end of the manuscript. Abbreviations of journal titles should be those used in *Chemical Abstracts.*

Mailing. To avoid creasing, please place manuscripts between cardboards when mailing.

Reprints

Reprint order forms are sent to the authors immediately upon acceptance of their manuscripts. The price list is included.